FIG. 1
RELATED ART

INPUT VIDEO STREAM
HIGH FRAME-RATE → FRAME SKIPPER → ESTIMATOR → OUTPUT VIDEO STREAM
LOW FRAME-RATE

11   10   12

FIG. 2
RELATED ART

FRAME N-2   FRAME N-1   FRAME N
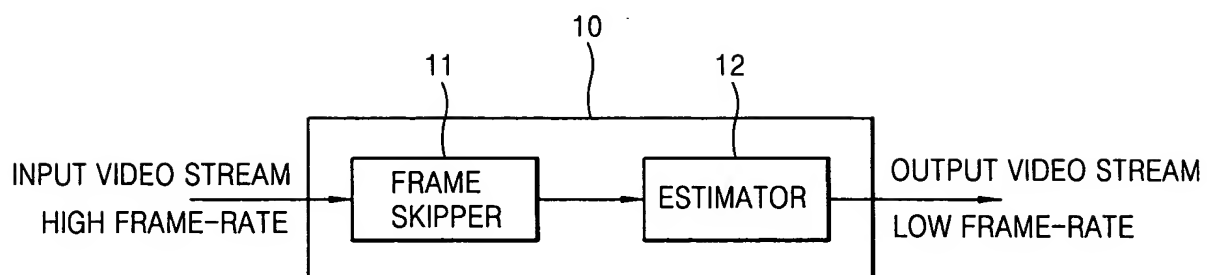
MV_{N-1}

MV_N

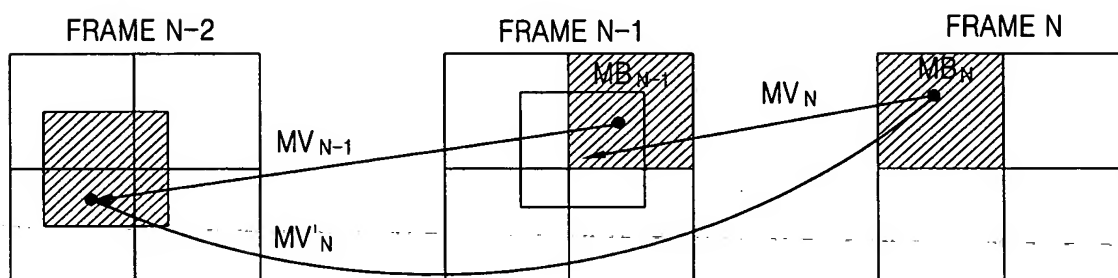MV'_N

MB_{N-1}

MB_N

FIG. 3

```
if(MB_type_MB_N==SKIPPED)
   {
   if(MB_type_skipped_frame==INTRA)
      new_MB_type_MB_N=INTRA;
   else if(MB_type_skipped_frame==INTER)
      new_MB_type_MB_N=INTER;
   else
      new_MB_type_MB_N=SKIPPED;
   }
```
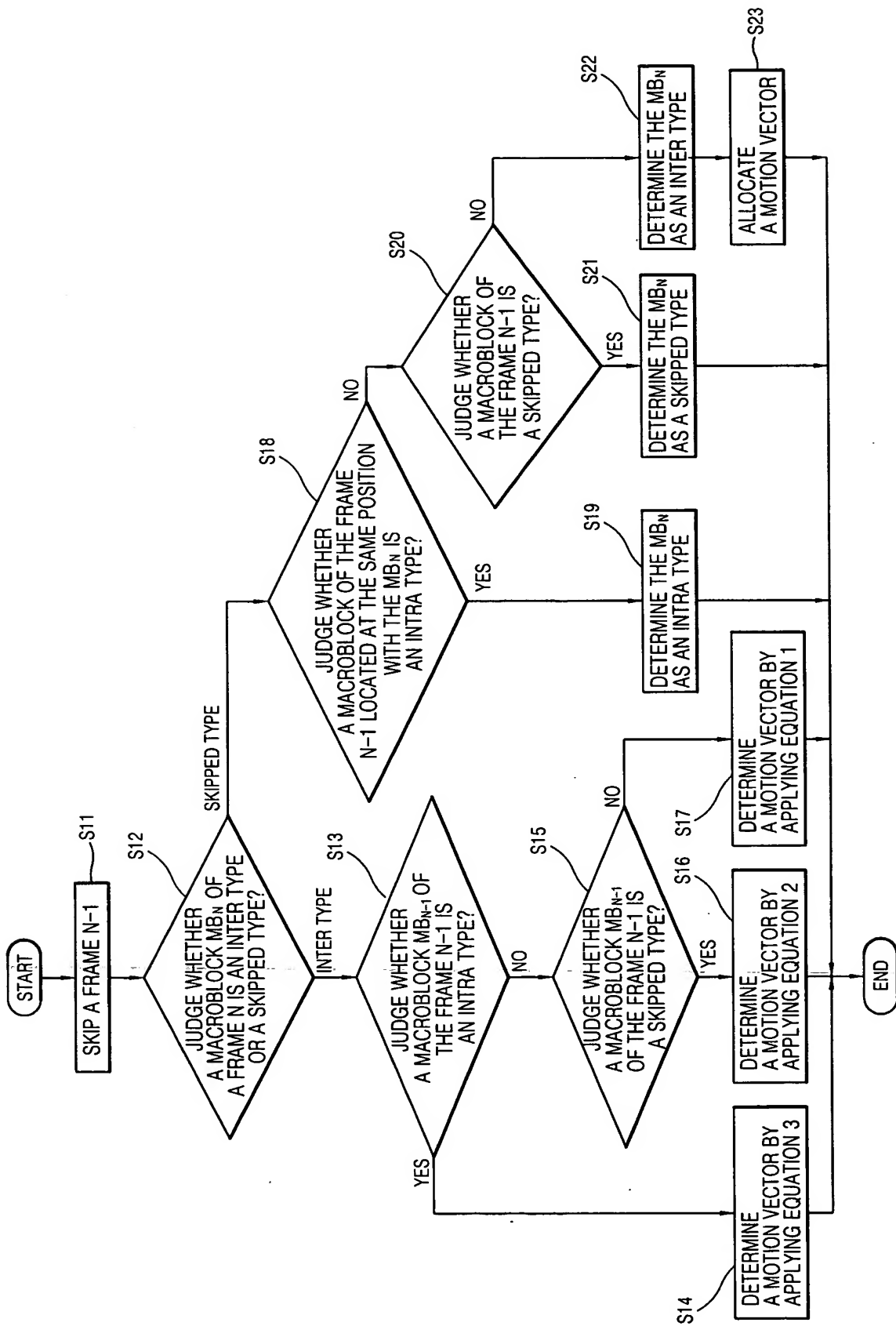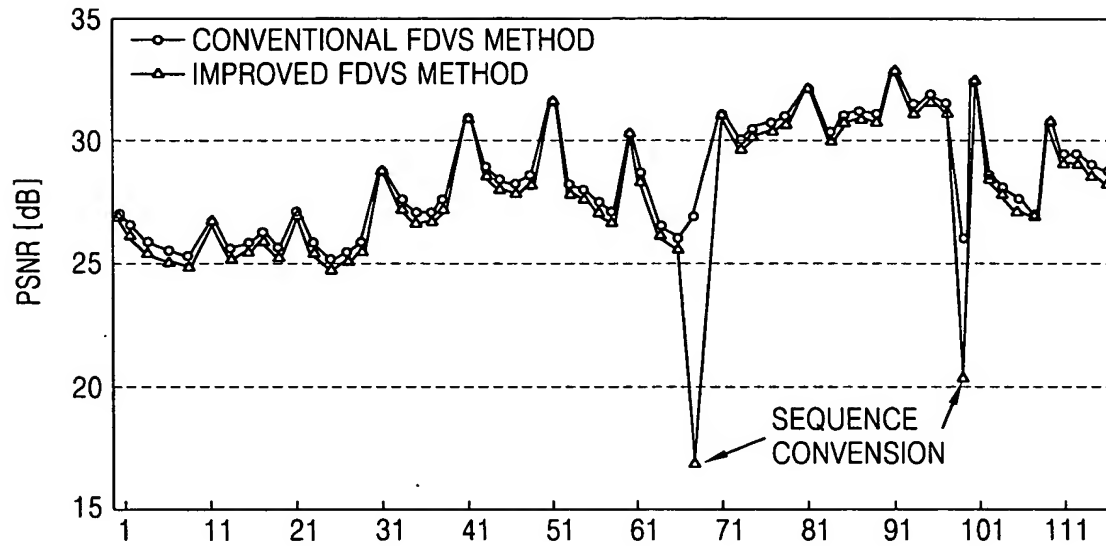
FIG. 4

START

S11 — SKIP A FRAME N-1

S12 — JUDGE WHETHER A MACROBLOCK MB_N OF A FRAME N IS AN INTER TYPE OR A SKIPPED TYPE?

INTER TYPE

S13 — JUDGE WHETHER A MACROBLOCK MB_{N-1} OF THE FRAME N-1 IS AN INTRA TYPE?

NO

S15 — JUDGE WHETHER A MACROBLOCK MB_{N-1} OF THE FRAME N-1 IS A SKIPPED TYPE?

YES

NO

S17 — DETERMINE A MOTION VECTOR BY APPLYING EQUATION 1

S16 — DETERMINE A MOTION VECTOR BY APPLYING EQUATION 2

YES

S14 — DETERMINE A MOTION VECTOR BY APPLYING EQUATION 3

SKIPPED TYPE

S18 — JUDGE WHETHER A MACROBLOCK OF THE FRAME N-1 LOCATED AT THE SAME POSITION WITH THE MB_N IS AN INTRA TYPE?

YES

S19 — DETERMINE THE MB_N AS AN INTRA TYPE

NO

S20 — JUDGE WHETHER A MACROBLOCK OF THE FRAME N-1 IS A SKIPPED TYPE?

YES

S21 — DETERMINE THE MB_N AS A SKIPPED TYPE

NO

S22 — DETERMINE THE MB_N AS AN INTER TYPE

S23 — ALLOCATE A MOTION VECTOR

END

FIG. 5A

FIG. 5B